USGS science for a changing world

Earthquake Shaking — Yellow Alert

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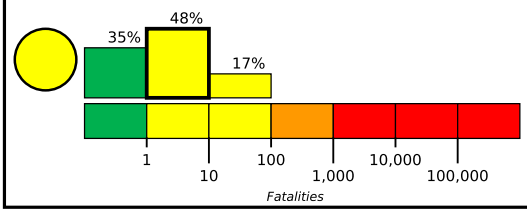
# M 5.4, 11 km WNW of San Bartolo, Peru

Origin Time: 2022-05-12 21:55:48 UTC (Thu 16:55:48 local)
Location: 12.3599° S 76.8900° W Depth: 55.9 km

**PAGER Version 2**

Created: 2 hours, 3 minutes after earthquake

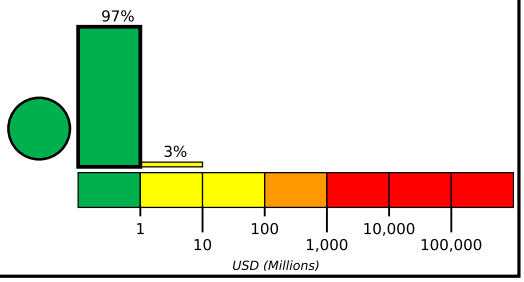
## Estimated Fatalities




Yellow alert for shaking-related fatalities. Some casualties are possible and the impact should be relatively localized. Past events with this alert level have required a local or regional level response.

Green alert for economic losses. There is a low likelihood of damage.

## Estimated Economic Losses

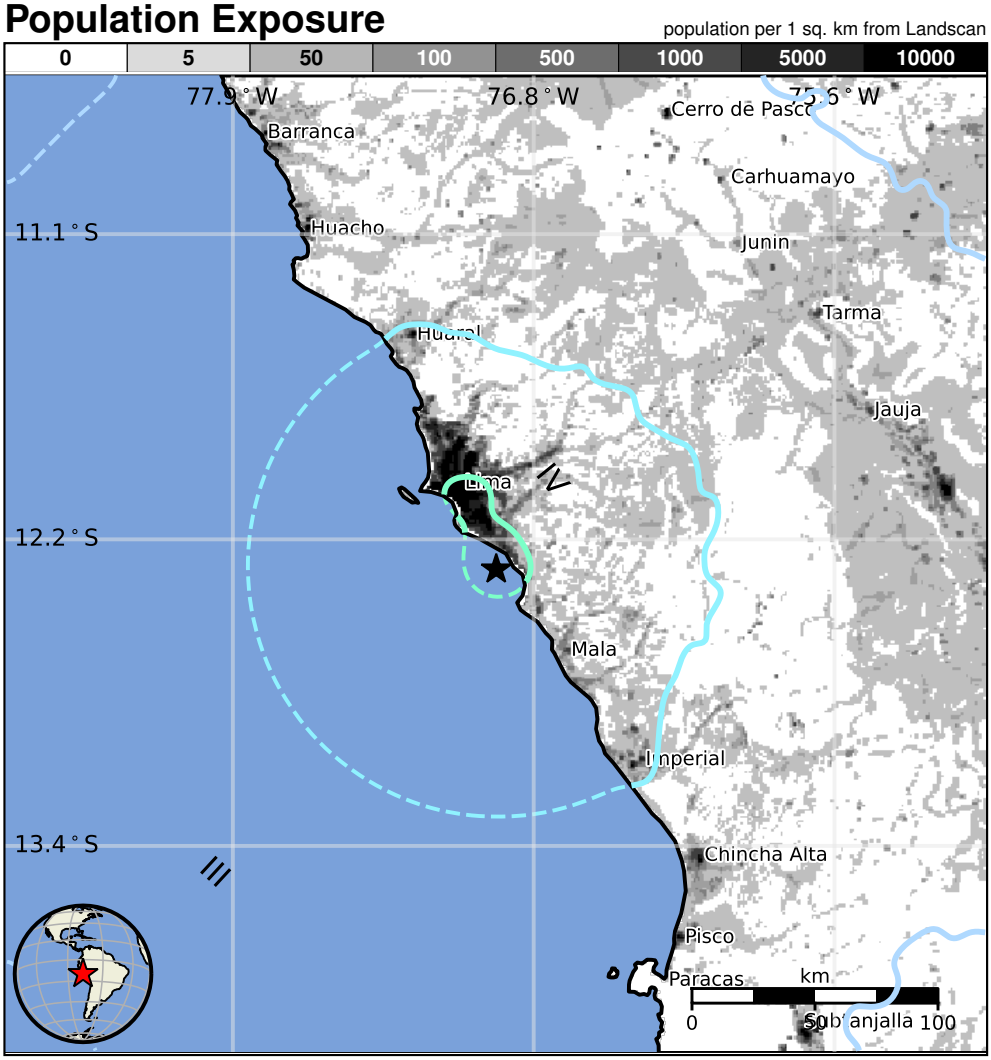



## Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 2,767k | 4,990k | 6,178k | 0 | 0 | 0 | 0 | 0 |
| ESTIMATED MODIFIED MERCALLI INTENSITY | | I | II-III | IV | V | VI | VII | VIII | IX | X+ |
| PERCEIVED SHAKING | | Not felt | Weak | Light | Moderate | Strong | Very Strong | Severe | Violent | Extreme |
| POTENTIAL DAMAGE | Resistant Structures | None | None | None | V. Light | Light | Moderate | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./Heavy | Heavy | V. Heavy | V. Heavy |

*Estimated exposure only includes population within the map area.

## Population Exposure




## Structures

Overall, the population in this region resides in structures that are highly vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are mud wall and reinforced/confined masonry construction.

## Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 1981-04-18 | 285 | 5.5 | VI(193k) | 8 |
| 1976-05-15 | 279 | 6.7 | VII(6k) | 5 |
| 2007-08-15 | 117 | 8.0 | VIII(493k) | 514 |

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| V | San Luis | 9k |
| V | Punta Hermosa | <1k |
| **V** | **Lima** | **7,737k** |
| V | Santiago de Surco | 252k |
| V | La Molina | <1k |
| V | San Isidro | 68k |
| IV | Callao | 813k |
| **III** | **Huacho** | **55k** |
| III | Huancayo | 377k |
| **III** | **Cerro de Pasco** | **79k** |
| III | Ica | 247k |

bold cities appear on map. (k=x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

**https://earthquake.usgs.gov/earthquakes/eventpage/us6000hkpv#pager**

**Event ID: us6000hkpv**